Claims

1. Method for printing of a recording medium,
   - in which potential images of the images to be printed are generated on a potential image carrier (101),
   - in which the potential images (101) are developed into an image film on the potential image carrier (10) via a liquid developer made up of a polymerizable carrier fluid with dye particles suspended therein,
   - in which the image film is transferred onto the recording medium (402),
   - in which the image film is fixed on the recording medium (402) via cross-linking of the carrier fluid.

2. Method according to claim 1,
in which the dye particles of the image regions are embedded in a fixed polymer matrix via the cross-linking of the carrier fluid and the carrier fluid permanently bonds with the recording medium (402).

3. Method according to claim 2,
in which the carrier fluid is transparent in the cross-linked state.

4. Method according to claim 2 or 3,
in which the carrier fluid is solidified into a transparent film in the non-image regions.

5. Method according to any of the preceding claims,
in which the carrier fluid is based on silicon oil.

6. Method according to claim 5,
in which the silicon oil comprises polydimethylsiloxane.

7. Method according to claim 5,
in which the carrier fluid comprises molecules derived from polydimethylsiloxane that exhibit functional groups.

8. Method according to any of the preceding claims,
in which the liquid developer exhibits a weight proportion of dye particles of 10 to 50%.

9. Method according to any of the preceding claims,
in which the developer fluid exhibits a concentration of dispersion stabilizers in the range from 0.5 to 5%.

10. Method according to claim 9,
in which the concentration is > 1%.

11. Method according to any of the preceding claims,
in which the integration of color pigments into the ink particles in the liquid developer requires a reduced proportion of a bonding agent.

12. Method according to claim 11,
in which the fixing is independent of the binding agent of the color pigment.

13. Method according to any of the preceding claims,
in which the cross-linking of the carrier fluid occurs via a reaction of radicals with the methyl groups of the polydimethylsiloxane.

14. Method according to claim 13,
in which the cross-linking arises via oxidation with peroxy bonds.

15. Method according to any of the claims 1 through 12,

in which the cross-linking of the carrier fluid occurs via polymerization.

16. Method according to claim 15,
in which the carrier fluid molecules agglomerate into polymeric macromolecules via a start reaction, chain reaction and/or chain termination reaction.

17. Method according to claim 16,
in which silicon rubber is formed via wide-meshed cross-linking of the organic side groups of the silicon chains as a result of chemical bonds.

18. Method according to claim 17,
in which the agglomeration is acid-catalyzed or, respectively, is initiated via KOH (potassium hydroxide).

19. Method according to claim 16 or 17,
in which the agglomeration occurs in the absence of chain-breaking substances (Me3SiO-) or cross-linking groups (MeSi(-O-)3)

20. Method according to claim 19,
in which the agglomeration is amplified by pyrogenous silicon dioxide.

21. Method according to any of the claims 1 through 12,
in which an oxidative cross-linking (vulcanization) is implemented.

22. Method according to claim 21,
in which the vulcanization occurs via benzyl peroxide and heating.

23. Method according to claim 21,

in which the vulcanization occurs at room temperature via small quantities of Si-H groups that can be catalytically added to previously-added Si-CH=CH2 groups.

24. Method according to claim 21,
in which single-component silicon rubber is cross-linked with acetoxy groups via action of moisture at room temperature.

25. Method according to any of the claims 1 through 12,
in which heat cross-linked (addition cross-linked) silicone comprising 1- or 2-component systems with, for example, platinum as a catalyst are used.

26. Method according to any of the claims 1 through 12,
in which a condensation cross-linked silicon comprising 1- or 2-component systems with, for example, tin as a catalyst and humidity is used for cross-linking.

27. Method according to any of the claims 1 through 12,
in which the cross-linking of the carrier fluid is formed via formation of silicone resins with spatial cross-linking of the siloxane scaffold.

28. Method according to any of the claims 1 through 12,
in which the cross-linking of the carrier fluid occurs via polycondensation.

29. Method according to claim 28,
in which the polycondensation occurs via hydrolysis of phenyl-substituted dichloro- or trichlorosilane in toluene.

30. Method according to any of the claims 1 through 12,

in which the cross-linking of the carrier fluid occurs via polyaddition, whereby respectively two different molecule types are continuously added without separation of byproducts.

31. Method according to any of the preceding claims, in which [sic] occurs for cross-linking of the carrier fluid under addition of an auxiliary substance and/or of auxiliary energy.

32. Method according to claim 31, in which the cross-linking reaction of the carrier fluid is started, accelerated or extended via at least one component.

33. Method according to claim 31 or 32, in which radiation or, respectively, radiation energy acts on the carrier fluid as a component.

34. Method according to claim 33, in which the radiation energy is supplied in the form of heat.

35. Method according to claim 33, in which the radiation energy acts via corona irradiation.

36. Method according to claim 31 or 32, in which a gas (for example ozone) acts on the carrier fluid as a component.

37. Method according to claim 31 or 32, in which increased humidity is used as a component.

38. Method according to claim 37, in which the increased humidity is generated via vaporization or a spray strip.

39. Method according to claim 37,
in which the increased humidity is used in connection with a condensation-cross-linked carrier fluid.

40. Method according to claim 31 or 32,
in which a solid material or a fluid that acts as a reaction partner is used as a component.

41. Method according to claim 40,
in which a catalyst that comprises a bond with, for example, platinum, tin, titanium is additionally integrated.

42. Method according to any of the claims 31 through 41,
in which the individual components are combined with one another.

43. Method according to any of the claims 31 through 42,
in which the components act on the carrier fluid at different points in the printing process.

44. Method according to claim 43,
in which the addition of the radiation or, respectively, the action of the increased humidity occurs after the development of the toner image, preferably after the transfer printing onto the recording medium (402).

45. Method according to claim 43,
in which the admixture of a reaction partner into liquid developer occurs via spray strip or roller application unit in the developer station (200) or, respectively, after the transfer printing onto the recording medium (402).

46. Method according to claim 43,

in which, given a solid material or a fluid as a component, the recording medium is pre-coated with this.

47. Method according to any of the preceding claims,
in which excess carrier fluid is removed by a conditioning roller.

48. Method according to claim 47,
in which a potential is applied to the conditioning roller such that the dye particles are repelled and the carrier fluid is separated.

49. Method acceding to claim 47,
in which the conditioning roller exhibits an absorbent coating.

50. Method according to claim 47 or 48,
in which the conditioning roller is cleaned of the transferred carrier fluid by a scraper or nip bar.

51. Electrographic printer or copier device in which print images transfer-printed onto a recording medium (402) is [sic] fixed according to the method according to any of the preceding claims.